

Agilent Technologies, Inc.
Intellectual Property Practice Group
5301 Stevens Creek Blvd., MS 64U-PO
Santa Clara, CA 95051-7201

408 553-2804 telephone
408 553-2365 facsimile
Juergen_Krause-Polstorff@agilent.com
www.agilent.com

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To:	Bridget C. Monroe Patent Appeal Specialist	Date:	8/16/2006
Company:	U. S. Patent & Trademark Office	From:	Marcella Wilhite
Telephone number:		Fax number:	408 553 2365
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		(Including Cover Page)	

Message: RE: U. S. Patent Application No. 10/765,647
Filed January 26, 2004
Attorney Docket No: 10030763-1

Enclosed are:

1. Response to Notification of Non-Compliant Appeal Brief

Respectfully Submitted,

J. Krause-Polstorff / MW
J. Krause-Polstorff
Reg. No. 41,127

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Applicant: Laura Wills Mirkarimi

Group Art Unit: 1765

Serial No.: ~~10/765,047~~ 10/765,647

Examiner: Duy Vu Nguyen Deo

Filed: January 26, 2004

For: METHOD FOR ETCHING HIGH ASPECT RATIO FEATURES IN III-V BASED
COMPOUNDS FOR OPTOELECTRONIC DEVICES

Attorney Docket No. 10030753-1

Commissioner for Patents

P.O. Box 1450

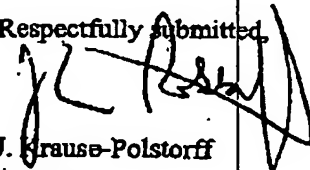
Alexandria, VA 22313-1450

Sir,

This communication is in response to the Notification of Non-Compliant Appeal
Brief (37 CFR 41.37) mailed on August 28, 2006.

Pursuant to MPEP 1205.03(B), the attached two pages replace the originally filed
SUMMARY OF CLAIMED SUBJECT MATTER in the APPEAL BRIEF filed on
August 7, 2006.

Respectfully submitted,


J. Krause-Polstorff
Attorney
Reg. No. 41,127
Sept. 28, 2006
Tel: 408 553-2804

Agilent Technologies, Inc.
Legal Department, DL 429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

SEP 28 2006

SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention is directed to a method for combining Reactive Ion Etching (RIE) with bromine based chemistry to etch III-V based compounds such as InP. Mixtures of HBr with CH₄ and H₂ provide fast etch rates, vertical sidewalls and good control over the growth of polymers that arise from the presence of CH₄ in the mixture. In accordance with the invention, HI or IBr or some combination of group VII gaseous species (Br, F, I) may be substituted for HBr. Typical values in accordance with the invention for mixtures of HBr, CH₄ and H₂ are HBr in the range of about 2 to 75 percent, CH₄ in the range of about 5 to 50 percent and H₂ in the range of about 5 to 40 percent by volume at pressures in the range from about 1 to 30 mTorr.

A method for etching high aspect ratio features in III-V based compounds for optoelectronic devices in accordance with the invention is described starting on page 3, line 1 of the specification, shown in FIGs. 1a-c. The method as recited in Claim 1 for etching a III-V semiconductor material (110) comprises placing a semiconductor substrate (105) on which the III-V semiconductor material (110) has been deposited into a reactive ion etching reactor (205); introducing a first gas chosen from HBr, HI and IBr into the reactive ion etching reactor (205), introducing a second gas of CH₄ into the reactive ion etching reactor (205), introducing a third gas of H₂ and exposing a portion of the III-V semiconductor material (110) to be etched to a mixture comprising the first, the second and the third gas.

A method for etching high aspect ratio features in III-V based compounds for optoelectronic devices in accordance with the invention is described starting on page 3, line 1 of the specification, shown in FIGs. 1a-c. The method as recited in Claim 12 for

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etching a III-V semiconductor substrate (105) comprises placing the semiconductor substrate (105) into a reactive ion etching reactor (205); introducing a first gas chosen from HBr, HI and IBr into the reactive ion etching reactor (205), introducing a second gas of CH₄ into the reactive ion etching reactor (205), introducing a third gas of H₂ and exposing a portion of the III-V semiconductor material (110) to be etched to a mixture comprising the first, the second and the third gas.

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